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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,197	08/02/2001	David J. Scarborough	5437-58514	7893

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EXAMINER
HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/922,197	SCARBOROUGH ET AL.
	Examiner	Art Unit	
	Joseph P. Hirl	2121	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 August 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-54</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-54</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 August 2001</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>02.02.04</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-54 are pending in this application.

Drawings

2.   The drawings are objected to because of the following:

Fig. 17 is prior art and must be so labeled.

This objection must be corrected.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The condition "operable to predict plural outcomes" provides for uncertainty (any answer would do) and renders the claim indefinite.

5.   Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The condition "collecting pre-hire applicant information for

hired employees before they are hired" requires actions before they are known to occur

and renders the claim indefinite.

6.   Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "superior" is a relative term and renders the claim

indefinite.

7.   Claim 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "hired employees" raises the question, "When are

employees not hired?" and renders the claim indefinite.

8.   Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "the importance of the post-hire outcomes" raises

the question, "Under what conditions is the post-hire outcome not important?" and

renders the claim indefinite.

9.   Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "effectiveness" is relative and renders the claim

indefinite.

10.   Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The term "superior ability" is relative and renders the claim

indefinite.

Double Patenting

11.   The nonstatutory double patenting rejection is based on a judicially created

doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent

and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,*

418 F.2d 528, 163 USPQ 644 (CCPA 1969).

12.   A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be

used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly

owned with this application. See 37 CFR 1.130(b).

13.   Effective January 1, 1994, a registered attorney or agent of record may sign a

terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with

37 CFR 3.73(b).

14.   Claims 25, 30, 45, 51 and 52 are provisionally rejected under the judicially

created doctrine of double patenting over claims 1, 10, 11 and 12 of copending

Application No. 09/921,993. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

15.   The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Claims 25, 30, 45, 51, 52, and 53 each of the subject application and collectively claims 1, 10, 11 and 12 of application 09/921,993 as applied to each of the respective claims represents nonstatutory double patenting since the prediction would evolve from the AI model.

16.   Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

17.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18.   Claims 1-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Bro

(U.S. Patent 5,722,418, referred to as **Bro**).

Claims 1, 28

Bro anticipates an electronic data interrogator operable to present a first set of a

plurality of questions to the individual (**Bro**, c 9, l21-67); an electronic answer capturer

operable to electronically store the individual's responses to at least a selected plurality

of the first set of questions presented to the individual (**Bro**, c 9, l21-67); an electronic

predictor responsive to the stored answers and operable to predict at least one post-hire

outcome if the individual were to be employed by the employer, the predictor providing a

prediction of the outcome based upon correlations of the stored answers with answers

to sets of questions by other individuals for which post-hire information has been

collected (**Bro**, c 37, l 30-34; c 38, l 1-13); and an electronic results provider providing

an output indicative of the outcome to assist in determining the suitability of the

individual for employment by the employer (**Bro**, c 38, l 14-34).

Claim 2

Bro anticipates the post-hire outcome indicates whether the individual is

predicted to be eligible for re-hire after termination (**Bro**, c 38, l 20; Examiner's Note

(EN): such is the change in current condition and classification).

Claim 3

Bro anticipates the post-hire outcome indicates whether the individual is

predicted to be involuntarily terminated (**Bro**, c 38, l 14-34; EN: such is the change in

current condition and classification).

Claim 4

Bro anticipates the post-hire outcomes indicate whether the individual is
predicted to be involuntarily terminated and whether the individual is predicted to be
eligible for re-hire after termination (**Bro**, c 38, l 14-34; EN: such is the change in current
condition and classification).

Claims 5, 38

Bro anticipates at least one of the predicted outcomes is a predicted probability
that a particular outcome value range will be observed (**Bro**, c 36, l 14-16; EN: post-hire
is a change of condition; candidate employee is a reasoned output).

Claims 6, 39

Bro anticipates at least one of the predicted outcomes is a predicted value for a
continuous variable (**Bro**, c 12, l 5; c 13, l 40-49).

Claims 7, 40

Bro anticipates the predicted outcome is a predicted range of values for a
continuous variable (**Bro**, c 11, l 12-64; c 13, l 40-49) .

Claim 8

Bro anticipates the predicted outcome indicates whether the individual will belong
to a particular group (**Bro**, c 5, l 3-28).

Claims 9, 41, 42

Bro anticipates at least one of the predicted outcomes is a predicted ranking of
the individual for the outcome (**Bro**, c 59, l 10-35; EN: all employees are hired).

Claim 10

Bro anticipates a predicted employment tenure for the individual (**Bro**, c 59, l 10-

35; EN: such is the performance of daily tasks).

Claim 11

Bro anticipates at least one of the predicted outcomes indicates a predicted

number of accidents for the individual (**Bro**, c 59, l 10-35; EN: such is the complement

of performance of daily tasks).

Claim 12

Bro anticipates at least one of the predicted outcomes indicates a predicted sales

level for the individual (**Bro**, c 59, l 10-35; EN: such is the result of simulations).

Claim 13

Bro anticipates the predictor comprises an artificial intelligence-based prediction

system (**Bro**, c 37, l 26-34).

Claim 14

Bro anticipates wherein the data interrogator is located at a first location and the

predictor is located at a second location which is remote from the first location (**Bro**, Fig.

1).

Claim 15

Bro anticipates the data interrogator and the predictor are selectively

electronically interconnected through a network (**Bro**, Fig. 1).

Claim 16

Bro anticipates the network is the worldwide web (**Bro,** c 17, l 66-67; c 18, l 1-37).

Claim 17

Bro anticipates the network is the telephone network (**Bro,** c 18, l 8-12).

Claim 18

Bro anticipates the network is a satellite network (**Bro,** c 17, l 66-67; c 18, l 1-37; EN: such is a wide area network).

Claim 19

Bro anticipates the first set of questions may be varied (**Bro,** c 14, l 42-67; c 15, l 1-2).

Claim 20

Bro anticipates the predictor is operable to determine and indicate a lack of a correlation between one or more questions of the first set of questions and at least one of the predicted outcomes, whereby questions which lack the correlation may be discarded or modified (**Bro,** c 15, l 14-30; c 53, l 29-41; EN: such is the operation of AI software).

Claim 21

Bro anticipates at least one of the predicted outcomes is longevity with an employer and the answers to sets of questions by other individuals comprise answers by employees of the employer for whom longevity has been determined (**Bro,** c 40, l 46-51; EN: longevity is a long term goal).

Claim 22

Bro anticipates in which the predictor comprises at least one model which

provides a predictor of the probability of the individual exhibiting at least one of the

predicted outcomes, the model being based on correlations between the at least one of

the predicted outcomes and the answers to questions by the other individuals, including

answers by at least some employees of the employer, the model taking at least selected

answers of the stored answers as inputs to the model, a probability of the individual

exhibiting the at least one of the predicted outcomes being provided as an output of the

model (**Bro**, c 36, l 1-16).

Claim 23

Bro anticipates at least one neural network (**Bro**, c 37, l 26-34).

Claim 24

Bro anticipates the predictor is responsive to the stored answers and operable to

predict plural outcomes if the individual were to be employed by the employer (**Bro**, c

53, l 29-41).

Claim 25

Bro anticipates collecting pre-hire applicant information for hired employees

before they are hired (**Bro**, c 9, l 21-67); collecting post-hire measures of the job

effectiveness of hired employees (**Bro**, c 59, l 10-35); constructing an artificial

intelligence model identifying associations of patterns within the pre-hire data

associated with patterns of job effectiveness in the post-hire data (**Bro**, c 37, l 26-34);

collecting pre-hire information for a new applicant (**Bro**, c 59, l 10-35); and applying the

artificial intelligence model to the pre-hire information for the new applicant to provide a

prediction of the new applicant's suitability for employment (**Bro**, c 37, I 26-34).

Claim 26

Bro anticipates collecting post-hire information for the new applicant (**Bro**, c 37, I

26-34; EN: Fig. 2A identifies the building of a client database which would include both

pre and post hiring information since such information represents a change in

condition); and using at least the pre-hire and post-hire information for the new applicant

to refine the artificial intelligence model (**Bro**, c 37, I 26-34).

Claim 27

Bro anticipates constructing at least one other artificial intelligence model of a

different type (**Bro**, c 37, I 33); and assessing the relative effectiveness of the artificial

intelligence models at predicting suitability of employees for employment based on

actual employment effectiveness of employees hired based on the models (**Bro**, c 37, I

29-59; EN: suitability is in reference to established goals ... effectiveness).

Claim 29

Bro anticipates an electronic device for presenting an employment application

comprising a set of questions to an employment candidate, wherein the electronic

device is operable to transmit answers of the employment candidate to a central store of

employee information, wherein the central store of employee information comprises

information collected for a plurality of candidate employees and a plurality of hired

employees (**Bro**, Fig. 1); an artificial intelligence-based model constructed from

information collected from the hired employees based on answers provided by the hired

employees and employment behaviors observed for the hired employees (**Bro**, c 37, I

26-34); a software system for supplying the answers of the employment candidate to

the artificial intelligence-based model to produce predicted employment behaviors for

the employment candidate (**Bro**, c 37, I 26-34); and a report generator to produce a

hiring recommendation report for the employment candidate based on the predicted

employment behaviors of the employment candidate (**Bro**, c 49, I 17-39).

Claim 30

Bro anticipates collecting data indicating pre-hire information for a plurality of the

hired employees (**Bro**, Fig. 2A); collecting data indicating post-hire outcomes for the

hired employees (**Bro**, Fig. 2A; c 37, I 30-34); constructing an artificial intelligence-

based model from the pre-hire information and the post-hire outcomes for the

employees (**Bro**, c 37, I 30-34); from the candidate employee, electronically collecting

data indicating pre-hire information of the candidate employee (**Bro**, Fig. 2A; c 37, I 30-

34); and applying the model to the collected pre-hire information of the candidate

employee to generate one or more predicted post-hire outcomes for the candidate

employee (**Bro**, c 37, I 30-34).

Claim 31

Bro anticipates collecting data from the candidate employee comprises

electronically presenting a set of questions at an electronic device and electronically

collecting answers to the questions at the electronic device (**Bro**, Fig. 1, c 1, I 15-22).

Claim 32

Bro anticipates identifying one or more pre-hire characteristics as ineffective predictors; and responsive to identifying the pre-hire characteristics as ineffective predictors, omitting the ineffective predictors from the model (**Bro**, c 37, l 26-34; such is the way AI functions).

Claim 33

Bro anticipates a report indicating applicant flow (**Bro**, c 49, l 17-20; EN: such is provided by feedback).

Claim 34

Bro anticipates constructing a plurality of proposed models, wherein at least two of the models are of different types; and selecting a superior proposed model as the model to be used (**Bro**, c 37, l 26-34; EN: models are trained and the trained model is then used ... superior model).

Claim 35

Bro anticipates the proposed models are different neural network types (**Bro**, c 37, l 26-34; EN: one type was trained and the other was not).

Claim 36

Bro anticipates the two proposed models are both feed-forward neural networks (**Bro**, c 37, l 26-34; EN: one type was trained and the other was not; feed-forward neural networks are generic).

Claim 37

Bro anticipates the two proposed models are chosen from the following: back

propagation, conjugate gradients, quasi-Newton, Levenberg-Marquardt, quick

propagation, delta-bar-delta, linear, radial basis function, and generalized regression

network (**Bro**, c 37, l 26-34; EN: one type was trained and the other was not; feed-

forward neural networks are generic; such are the neural networks).

Claim 43

Bro anticipates storing a relative importance of one or more particular post-hire

outcomes (**Bro**, c 9, l 21-67); and generating automated hiring recommendations based

on the predicted post-hire outcomes for the candidate employees and the importance of

the post-hire outcomes (**Bro**, c 53, l 29-41;hiring recommendations relates to goals;

post –hire is a change of condition).

Claim 44

Bro anticipates refining the model based on newly-observed post-hire outcomes

(**Bro**, c 37, l 26-34).

Claim 45

Bro anticipates identifying one or more questions as ineffective predictors (**Bro**, c

37, l 26-34); responsive to identifying the questions as ineffective predictors, modifying

the job application by removing the questions (**Bro**, c 37, l 26-34); collecting new pre-

hire information for additional candidate employees based on the modified job

application (**Bro**, Fig. 2A); collecting new post-hire information for the additional

candidate employees (**Bro**, Fig. 2A); and constructing a refined artificial-intelligence

model based on the additional pre-hire and post-hire information for the additional

candidate employees (**Bro**, c 37, l 26-34; EN: disregarding ineffective data is generic to

AI).

Claim 46

Bro anticipates responsive to determining pre-hire and post-hire information has

been collected for a sufficient number of additional employees, providing an indication

that a refined model can be constructed (**Bro**, c 37, l 26-34; EN: such is the task of AI

models).

Claim 47

Bro anticipates providing a report indicating the identified questions are

ineffective predictors (**Bro**, c 49, l 17-39).

Claim 48

Bro anticipates adding one or more new questions to the modified job application

before collecting additional pre-hire information (**Bro**, Fig. 2A).

Claim 49

Bro anticipates the new questions are composed based on job skills appropriate

for a particular job related to the job application (**Bro**, Fig. 2A; EN: such are features of

a condition change).

Claim 50

Bro anticipates evaluating the effectiveness of the new questions (**Bro**, c 37, l 26-

34).

Claim 51

Bro anticipates a set of pre-hire characteristic identifiers (**Bro**, c 9, I 21-67); a set

of post-hire outcome identifiers (**Bro**, c 9, I 21-67); a collection of data for employees,

wherein the data includes values associated with the pre-hire identifiers and the post-

hire identifiers (**Bro**, c 9, I 21-67); and an artificial intelligence-based model chosen from

a set of candidate models, the artificial intelligence-based model exhibiting superior

ability at predicting values associated with the post-hire outcome identifiers based on

values associated with the pre-hire characteristic identifiers in comparison to the other

candidate models (**Bro**, c 37, I 26-34).

Claim 52

Bro anticipates pre-hire information for a plurality of employees, wherein the pre-

hire information comprises information electronically-collected from an applicant,

wherein the information comprises a plurality of pre-hire characteristics (**Bro**, c 9, I 21-

67); post-hire information for at least some of the plurality of employees, wherein the

information comprises a plurality of post-hire outcomes (**Bro**, c 9, I 21-67); and a data

structure identifying which of the pre-hire characteristics are effective in predicting a set

of one or more of the post-hire outcomes for a job applicant (**Bro**, c 49, I 17-39).

Claim 53

Bro anticipates collecting pre-hire information for potential employees (**Bro**, c 9, I

21-67); storing the pre-hire information for the potential employees in a database **Bro**, c

9, I 21-67); after hiring a plurality of the potential employees, collecting employment

performance information for at least some of the hired employees (**Bro**, c 9, I 21-67);

storing the employment performance information collected from the hired employees

(**Bro**, Fig. 2A); constructing an artificial intelligence-based model based on correlations

between the pre-hire information and the employment performance information

collected from one or more of the hired employees (**Bro**, c 37, I 26-34); collecting pre-

hire information for a new potential employee (**Bro**, c 9, I 21-67); based on the artificial

intelligence-based model, providing an automated hiring recommendation for the new

potential employee (**Bro**, c 37, I 26-34); after hiring the new potential employee,

collecting employment performance information for the new potential employee (**Bro**, c

9, I 21-67); adding the employment performance information for the new potential

employee to the database (**Bro**, Fig. 2A); and modifying the artificial intelligence-based

model based on the pre-hire and employment performance information for the new

potential employee (**Bro**, c 37, I 26-34).

Claim 53

Bro anticipates stationing a plurality of electronic devices at a plurality of

employer sites, wherein the electronic devices are operable to accept directly from one

or more job applicants answers to questions presented at the electronic devices (**Bro**, c

37, I 26-34; Fig. 1); sending the answers of at least one of the job applicants to a remote

site for analysis (**Bro**, Fig. 1); applying an artificial intelligence-based predictive model to

the answers of the least one of the job applicant to generate an automated hiring

recommendation (**Bro**, c 37, I 26-34; c 53, I 29-41); and automatically sending the hiring

recommendation to the employer (**Bro**, Fig. 1).

Examination Considerations

19.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater,* 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.

20.   Examiner's Notes are provided to assist the applicant to better understand the

nature of the prior art, application of such prior art and, as appropriate, to further

indicate other prior art that maybe applied in other office actions. Such comments are

entirely consistent with the intent and spirit of compact prosecution. However, and

unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that

one of ordinary skill in the art would find inherently appropriate.

21.   Examiner's Opinion: Paras 19 and 20 apply. The Examiner has full latitude to

interpret each claim in the broadest reasonable sense. Applicant's pre, post statements

are merely changes in condition that are anticipated by Bro. AI models identified by

applicant are generic to the art.

Conclusion

22.   The prior art of record and not relied upon is considered pertinent to applicant's

disclosure.

-    Rhalhammer-Reyero, U.S. Patent 5,980,096

-    Bushe, U.S. Patent 6,493,723

-    Aggarwal et al, Cybernetics and Systems, 0196-9722/00

23.   Claims 1-54 are rejected.

Correspondence Information

Any inquiry concerning this information or related to the subject disclosure

should be directed to the Examiner, Joseph P. Hirl, whose telephone number is

(703) 305-1668. The Examiner can be reached on Monday – Thursday from

6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, Anthony Knight can be reached at (703) 308-3179.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

or faxed to:

(703) 746-7239 (for formal communications intended for entry);
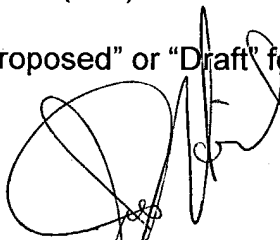
or faxed to:

   (703) 746-7290 (for informal or draft communications with notation of

"Proposed" or "Draft" for the desk of the Examiner).

Joseph P. Hirl

August 20, 2004